



**REGULATORY CROSSWALK OF
BEST PRACTICES TO PREVENT THE SPREAD OF AQUATIC INVASIVE SPECIES VIA
SEAPLANES**

Stephanie Otts

Director, National Sea Grant Law Center

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Aquatic invasive species (AIS) are spread in many ways. Preventing harmful introductions before they occur is the most effective means to avoid the costs and negative consequences from AIS. Managing pathways that contribute to the introduction and movement of AIS is critical to controlling their spread.

In the past decade, federal and state policy makers have directed significant policy attention to the trailered watercraft pathway because of the role they can play in moving AIS. More than half of the U.S. states have enacted laws and regulations that require boaters to clean, drain, and dry watercraft and related equipment prior to launch or upon removal from a waterbody to prevent the transport of aquatic animals and plants from one waterbody to another. Despite the ability to unintentionally transport AIS among waterbodies, seaplanes have not received much consideration.

The Aquatic Nuisance Species Task Force recently identified the seaplane pathway as a high priority for further study. In 2023, the U.S. Fish and Wildlife Service provided funding to support a risk assessment of the seaplane pathway and the development of recommendations to enhance seaplane aquatic invasive species prevention. This work included an assessment of the current federal, state, Tribal, and local laws governing seaplanes to increase understanding of the legal framework and identify opportunities for policy reform to more effectively address AIS risk.

The Federal Aviation Administration (FAA) has exclusive authority in regulating the airspace over the United States. (49 U.S.C. § 40103(a)). The FAA oversees the design, production, and airworthiness of aviation products, the training and certification of pilots, and the certification and operation of airports. The regulation of aircraft in flight, however, does not preempt state and local regulation of aircraft landing sites. (*Gustafson v. City of Lake Angelus*, 76 F.3d 778, 783 (6th Cir. 1996)). States, Tribes, and local governments may enact statutes, regulations, and ordinances governing on-the-ground airport operations as long as they do not conflict with federal law. Thirty states have at least one statute or regulation referring to seaplanes.¹ Only a few of these laws address the risk of AIS spread.

To better understand state efforts to manage the seaplane pathway, the National Sea Grant Law Center created a regulatory crosswalk. Regulatory crosswalks provide a systematic approach to mapping the different attributes associated with a policy issue to enable further analysis. Crosswalk mapping can help policy makers prioritize activities to achieved desired outcomes, including addressing identified gaps or increasing interstate consistency. For this project, the policy attributes selected for analysis were drawn from the *Seaplane Pilot Best Management Practices*, developed as part of the “Reducing the Potential to Spread Aquatic Invasive Species Via the Seaplane Pathway” project.

The Seaplane Pilot Best Management Practices can be grouped into three broad categories with relevance for policy development. These categories are:

1. Follow Clean, Drain, and Dry Practices: “Clean, Drain, and Dry” messaging is a component of Stop Aquatic Hitchhikers!, a national campaign that helps recreational

¹ See, Stephanie Otts, National Sea Grant Law Center, Summary of State Seaplane Regulations (Sept. 2024).

water users be part of the solution to help prevent and slow the spread of AIS. With respect to seaplanes, Clean, Drain, and Dry encompasses the following actions seaplane pilots should take before each flight:

- Inspect exterior of seaplane, including submerged floats, and remove visible vegetation, attached animals, and debris.
 - Pump any water from bilge compartments.
 - Allow aircraft floats to completely drain and dry, if possible, between trips.
2. Report any observed invasive species to the respective state AIS reporting system in accordance with current state guidance.
 3. Be informed about the types of AIS that might be encountered in local or regional waterbodies and the steps pilots can take to minimize the spread.

From these broad categories, the Law Center identified five legal obligations equivalent to the above BMPs to include in the regulatory crosswalk.

- Duty to Inspect: A legal obligation to inspect the exterior of a seaplane for attached aquatic plants, animals, or debris.
- Duty to Clean or Remove Species: A legal obligation to clean or remove visible aquatic plants, animals, or debris from a seaplane.
- Duty to Drain: A legal obligation to drain floats, bilges, and other components that may contain water before takeoff.
- Duty to Report: A legal obligation to report any invasive species found on a seaplane to the responsible state agency.
- Duty to Train: A legal obligation to complete an AIS training as part of a licensing program.

Also included in the regulatory crosswalk is the “Duty to Dry”, or a legal obligation to completely dry a seaplane. As most pilots do not have access to dry docking facilities for their seaplanes, this sixth duty should be considered optional, but recommended when feasible.

The Law Center then reviewed the invasive species laws of each of the 50 states for the presence or absence of these legal obligations. A summary of the research findings is set forth below. The full regulatory crosswalk is included as an appendix to this document.

State Laws

Clean, Drain, and Dry (CDD)

Seaplanes

Only four states – Illinois, Minnesota, Washington, and Wisconsin – require seaplane pilots to take action to mitigate the risk of AIS transport. The scope of these legal obligations vary. The obligations in Illinois and Wisconsin are limited to cleaning, whereas Minnesota and Washington require cleaning and draining. No state imposes drying requirements on seaplane operators.

- Illinois law requires seaplane pilots to clean seaplanes before takeoff. It is unlawful to place, operate, or takeoff a vehicle, seaplane, or watercraft with aquatic plants attached. 625 ILCS 45/5-23.
- Minnesota law requires seaplane pilots to clean and drain seaplanes. It is unlawful to place water-related equipment, which includes seaplanes, into Minnesota waters if plants or prohibited invasive species are attached. M.S.A. § 84D.10. When leaving a water of the state, a person must drain water-related equipment holding water and live wells and bilges before transporting the water-related equipment.
- Washington law requires seaplane pilots to clean and drain seaplanes. A person in possession of an aquatic conveyance, which includes seaplanes, must meet clean and drain requirements after the conveyance’s use in or on a water body. RCWA 77.135.110. In addition, Washington law requires owners of seaplanes to purchase an AIS prevention permit before placing or operating the seaplane in any waterbody in the state. RCWA 77.135.210.
- Wisconsin law requires seaplane pilots to clean seaplanes before takeoff. It is unlawful to “take off with a seaplane ... with aquatic plants or aquatic animals attached to the exterior of the seaplane.” W.S.A. 30.07.

Watercraft

The law in 28 additional states impose some CDD requirements on watercraft operators, although the scope of the legal obligations varies among states. All of these states require operators to clean or drain their watercraft either upon exit of a waterbody or before launch. Inspection is generally implied as part of the cleaning requirement, but five states do expressly require operators to “inspect” watercraft. Eleven states require reasonable measures be taken to dry watercraft or remain out of the water for a certain period of time. These obligations, however, do not apply to seaplanes as they are excluded from the definition of watercraft in these states.

As demonstrated by Minnesota and Washington, state CDD requirements can be imposed on seaplane operators simply by expanding the scope of coverage beyond watercraft. This is accomplished in both states by using a more expansive term to define the scope of regulatory coverage – “water-related equipment” in Minnesota and “aquatic conveyance” in Washington. New definitions are not necessarily required, as states could add a reference to seaplanes wherever watercraft are mentioned.

Recommendation: *To address this coverage gap, states should review their existing AIS laws and consider expanding their scope of their CDD obligations to include seaplanes. States without CDD requirements should consider adopting these requirements to further national alignment of state AIS policy.*

Reporting

Due to funding, personnel, and time constraints, agencies are unable to continuously survey and monitor all the waters in their respective states for the presence of AIS. Reporting requirements

help states obtain information about and respond to AIS threats. Six states require individuals with knowledge of the presence of certain aquatic invasive species to report the sighting to the appropriate state agency. The reporting triggers are different in each state.

The reporting requirement in California and Utah is limited to the discovery of dreissenid mussels (Cal. Fish & G. Code § 2301; U.C.A. 1953 § 23A-10-202). In Colorado, any person who knows that an aquatic nuisance species is present at a specific location must immediately report. (C.R.S.A. § 33-10.5-106). In Montana, a person who learns of the presence of an invasive species on that person’s vessel or property must immediately report (MCA 80-7-1012). In Idaho, the reporting requirement is limited to the discovery of species classified as “EDRR AIIS” (IDAPA 02.06.09.131). In Wyoming, only unreported aquatic invasive species must be reported (W.S.1977 § 23-4-202).

States without mandatory reporting requirements encourage the public to report AIS they observe within the state. Many states host websites that provide guidance on how to report. These states facilitate reporting through the use of online forms and apps. For example:

- Vermont: <https://dec.vermont.gov/watershed/lakes-ponds/aquatic-invasives/report>
- Ohio: <https://ohiodnr.gov/discover-and-learn/safety-conservation/fish-management/aquatic-invasive-species/reporting-aquatic-invasives>
- North Carolina: <https://survey123.arcgis.com/share/710337fbf02140599fd788ebfdd72744>
- Wisconsin: <https://dnr.wisconsin.gov/topic/Invasives/report>
- California: <https://wildlife.ca.gov/Conservation/Invasives/Report>

Recommendation: States should encourage seaplane pilots to report any observations of aquatic invasive species to the responsible state agency or entity in accordance with current state guidance.

Training

The failure of seaplane pilots to comply with the best practices listed above increases the risk of AIS spread and, in a few states, violates the law. Seaplane pilots may not know about AIS, how species may be accidentally transported on seaplanes, or the steps they can take to minimize the risk. Training courses or other training requirements can help ensure seaplane pilots are equipped with the knowledge of relevant laws, regulations, and recommended practices. Training can also help seaplane pilots learn how to identify AIS and report sightings. Trainings may be offered in-person or through online, on-demand modules. Research suggests that online educational courses are an effective means of increasing awareness and understanding of invasive species issues, as well as encouraging behavior change.²

States recognize the AIS educational needs of boaters. Three states – Connecticut, New York, and Washington – mandate that boater safety courses include information on AIS and CDD requirements. Utah requires boaters to annually complete an online “Mussel-Aware Boater

² See e.g., Megan M. Weber, Daniel J. Larkin, & Patrick Mulcahy, Creating informed consumers of aquatic invasive species management programs through online education for nonprofessionals. *Invasive Plant Sci. Manag.* 15:41–48. doi: 10.1017/inp.2022.10.

Course” (<https://stdofthesea.utah.gov/>). Boater safety courses offered in other states (e.g., [Florida](#)) also include modules on AIS.

Recommendation: States should consider requiring seaplane pilots to complete AIS training either as part of the curriculum of required safety courses or as stand-alone programs similar to that required for other water users such as boaters. The Washington Seaplane Pilot Association has developed a [Seaplane AIS Training](#) for pilots that provides information on CDD practices and how to minimize the risk of AIS transport. Washington, Oregon, Idaho, and Montana recognize the course as a resource for pilots to learn how to self-inspect their seaplanes, and its approval could be expanded to other states.

Tribal Laws

Tribal Nations have authority to regulate seaplane use on water bodies within their reservations. There are 574 Federally Recognized Tribes in the United States. Researching Tribal laws can be difficult because no comprehensive database exists. Some Tribal codes are available online through Tribal websites and other sources. Two examples of Tribal regulations relevant to seaplanes are:

- A resolution enacted by the Red Lake Band of Chippewa Indians in 2017 restricting access to Red Lake Indian reservation lakes to band member-owned boats to address the threat from AIS. ([Resolution No. 62-17](#)).
- An ordinance enacted by the Swinomish Tribe in Washington State that prohibits aircraft in Kukutali Preserve and on Kukutali Tidelands ([Swinomish Code Sec. 2-03.250\(C\)](#))

Pilots should contact individual Tribes to learn about whether seaplane access is permitted, including any relevant laws and regulations.

Local Laws

Due to a general lack of state regulation of seaplanes as detailed above, numerous water body managers and municipalities across the country prohibit or restrict seaplane use. A search of Municode, the largest compiler of municipal codes in the country, found that the most common type of local regulation of seaplanes is a blanket prohibition on their landing and use either on specific water bodies or any waters within the jurisdiction. Jurisdictions that allow seaplanes may have ordinances that require approvals or permits, impose speed limits or safety buffers, and regulate mooring. Local ordinances are not always accessible to the public online and knowledge of such local regulations may not be wide-spread, especially among out-of-state seaplane pilots.

Recommendation: States should consider implementing efforts to increase the transparency and accessibility of local seaplane ordinances and restrictions. State Departments of Transportation could maintain websites that compile information on seaplane bases and local water body restrictions. The Wisconsin Department of Transportation’s [Seaplane Information webpage](#) is a potential model for such a resource.